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EXAMINER

HSIEH, SHIH YUNG

ART UNIT

PAPER NUMBER

2837

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/985,856

Applicant(s)

MUKAIDA, HIDENORI

Examiner

Shih-yung Hsieh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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1. The disclosure is objected to because of the following informalities: page 11, line 11, Fig. 2 should be Fig. 12.

Appropriate correction is required.

2. Claims 5-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The following limitations lack antecedent basis:

Claim 5, line 1, "the engine muffler" and "the first expansion chamber";

line 2, "the gas inlet aperture";

lines 2-3, "the exhaust gas aperture";

line 3, "the engine" and "the second expansion chamber";

lines 3-4, "the exhaust gas outlet aperture";

line 9, the limitation "an exhaust gas outlet aperture" has been recited in lines 3-4, are they the same aperture? Correction to avoid confusion is required.

Claim 8, line 1, "the engine muffler";

line 2, "the cover plate" and "the first exhaust gas purifier";

lines 2-3, "the first expansion chamber";

line 3, "the partition board";

line 4, "the second expansion chamber";

line 6, the wall".

Claim 9, line 1, "The engine muffler" and "the first expansion chamber";

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lines 2-3, "the exhaust aperture";

line 3, "the engine";

lines 3-4, "the exhaust gas outlet aperture".

Claim 12, line 1, "the engine muffler" and "the first expansion chamber";

line 2, "the exhaust inlet";

line 3, "the second expansion chamber" and "the exhaust gas outlet";

lines 5-6, "the first expansion chamber side";

lines 7-8, "the second expansion chamber side";

line 16, "the surrounding wall".

Claim 13, both limitations "an exhaust gas purifier" and "a catalyst" have been recited previously in claim 12. Are they the same limitations? Correction to avoid confusion is required.

Claim 8 is not clearly composed because the preamble is a device while the body of the claim is directed to a manufacturing process and the step of removing the purifier but without providing active method steps.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Masuda et al. (4,890,690).

Masuda et al. disclose an engine muffler including a first expansion chamber (31) having an exhaust gas inlet (27) connecting to an exhaust gas outlet aperture (10) of an engine, a second expansion chamber (32) having an outlet of exhaust gas (60), at least one exhaust gas purifier coated with a catalyst (50) having innumerable numbers of small holes (col. 5, lines 45-46) comprising a wall of the second expansion chamber to which the engine is not installed is made of a double wall construction with a predetermined distance (37 and 42 in Fig. 1, and col. 4, lines 66-67).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al.

Regarding claim 2, Masuda et al. disclose the claimed invention except the wall to which the engine is installed being made into the double wall construction with a predetermined distance. However, Masuda et al. teach a first expansion chamber having a double wall construction (36, 41) extended to the engine with a heat insulating plate (22) between the engine and the wall to which the engine is installed. It would

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have been obvious to one having ordinary skill in the art to modify Masuda et al's muffler to extend the double construction of the first expansion chamber to the wall to which the engine is installed to replace the heat plate. In fact, the Masuda et al's construction is equivalent to a double wall structure as shown in Fig. 1.

Regarding claim 4, it is obvious that when there is no particular restriction existed in gas purification concentration degree, there is no need to apply a catalyst to the first exhaust gas purifier. The recitation appears to be related to a regulation rather than a structural limitation of an invention, therefore, does not carry any patentable weight.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. in view of Fischer et al. (4,890,690).

Masuda et al. disclose the claimed invention except a heat insulating material is packed between the double wall.

Fischer et al. teach a heat insulating material (32) being packed between the double wall (29) of a muffler (8). It would have been obvious to one having ordinary skill in the art to modify Masuda et al's muffler as taught by Fischer et al. to include except a heat insulating material is packed between the double wall for the purpose of providing high temperature resistant insulation. It would have been obvious to one having ordinary skill in the art to modify Masuda et al's muffler as taught by Fischer et al. to include a heat insulating material packed between the double wall for the purpose of providing high temperature resistant insulation.

8. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funakoshi et al. (6,250,075) in view of Fischer et al.

Regarding claims 9 and 10, Funakoshi et al disclose the claimed invention including a second exhaust gas purifier (16) coated with a catalyst to purify the exhaust gas through a plurality of through holes (16b) provided on an uneven recessed surface of the second purifier (Fig. 1) except the side walls of the second expansion chamber being made of a double wall construction with a predetermined distance, and having a heat insulating material between them.

Fischer et al. teach the side walls of the second expansion chamber being made of a double wall construction with a predetermined distance, and having a heat insulating material between them. It would have been obvious to one having ordinary skill in the art to modify Funakoshi et al's muffler as taught by Fischer et al. to include the side walls of the second expansion chamber made of a double wall construction with a predetermined distance, and having a heat insulating material between them for the purpose of providing high temperature resistant insulation.


Regarding claim 11, see the statement in item 6.

9. Claims 5-8, and 12-14 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

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10. The claims are allowable over the prior art for at least the reason that the prior art fails to reasonably teach or suggest in claims 5, 8, and 12 that a muffler comprising a cover plate to cover the first exhaust gas purifier in the first/second expansion chamber as set forth in the claimed combination.

11. Any inquiry concerning this communication should be directed to (David) S.Y. Hsieh at telephone number (703) 308-1031.

  
SHI-YUNG HSIEH  
PRIMARY EXAMINER